



**City of Bellevue
Development Services Department
Land Use Staff Report**

Proposal Name: 2017 SCL Vegetation Management

Proposal Address: Parcels 8046100100, 3325059021, 3325059176,
1624059255, 3325059020, 1242700055

Proposal Description: Critical Area Land Use review of a Vegetation Management Plan to conduct routine vegetation maintenance and removal on six (6) parcels within a Seattle City Light transmission line corridor.

File Number: 17-120429-LO


Applicant: Scott Luchessa

Decisions Included: Critical Areas Land Use Permit
(Process II. LUC 20.30P)

Planner: David Wong, Land Use Planner

**State Environmental Policy Act
Threshold Determination:** Determination of Non-Significance Issued (2010)
Addendum (2017)
Seattle City Light as Lead Agency

Director's Decision: Approval with Conditions


Elizabeth Stead, Land Use Director
Development Services Department

Application Date: September 5, 2017
Notice of Application Publication Date: October 19, 2017
Decision Publication Date: December 14, 2017
Project/SEPA Appeal Deadline: December 28, 2017

For information on how to appeal a proposal, visit Development Services Center at City Hall or call (425) 452-6800. Comments on State Environmental Policy Act (SEPA) Determinations can be made with or without appealing the proposal within the noted comment period for a SEPA Determination. Appeal of the Decision must be received in the City's Clerk's Office by 5 PM on the date noted for appeal of the decision.

I. Proposal Description

The applicant is requesting a Critical Areas Land Use Permit for Vegetation management in order to conduct routine vegetation pruning and removal within a Seattle City Light transmission line corridor. The proposal includes removal of fast growing hardwood saplings (*Salix spp.*, *Alnus rubra*, and *Populus balsamifera*), snagging of two (2) significant pine trees (*Pinus spp.*), and removal of invasive species from the base of the transmission line towers within the six (6) parcels. The proposal seeks to mitigate the loss of vegetation through the previously-submitted (attached) and approved BMPs, which include but are not limited to habitat snag creations, replanting of lower growing vegetation, and issuance of vouchers to private property owners for vegetation replacement.

II. Vegetation Management Plan Performance Standards LUC 20.25H.055.C.3.v.i

(A) Is the Vegetation Management Plan prepared by a qualified professional?

Yes ☒ or No ☐

Describe: The proposal was prepared by Scott Luchessa, Senior Environmental Analyst, Seattle City Light

(B) Does the Vegetation Management Plan include the following?

(1) A description of existing site conditions, including existing critical area functions and values;

Yes ☒ or No ☐

Describe: The six (6) parcels covered under this vegetation management plan contain streams, wetlands, steep slopes, and their buffers. Vegetation is mostly low growing through management and replacement, but includes some mature trees such as: conifers (*Pinus spp.*, *Pseudotsuga menzeisii*, *Tsuga heterophylla*, etc), cottonwoods (*Populus balsamifera*), red alder (*Alnus rubra*), and willows (*Salix spp.*). Blackberry (*Rubus armeniacus* and *laciniatus*), English ivy (*Hedera helix*), Scotch broom (*Cytisus scoparius*), and cherry laurel (*Prunus caroliniana*) are also present and documented.

(2) A site history;

Yes ☒ or No ☐

Describe: The transmission corridor was originally created under the Skagit Hydroelectric Project (1917) and management of the corridor has been conducted by Seattle City Light over the past several decades.

(3) A discussion of the plan objectives;

Yes ☒ or No ☐

Describe: The objectives of the vegetation management plan are to maintain transmission line vegetation safety standards through use of limited and targeted vegetation pruning and removal.

(4) A description of all sensitive features;

Yes ☒ or No ☐

Describe: A description of all on-site and adjacent critical areas is included in the plan and includes descriptions of the steep slopes, Wilburton tributaries & wetlands, Kelsey creek, and Coal creek.

(5) Identification of soils, existing vegetation, and habitat associated with species of local importance present on the site;

Yes ☒ or No ☐

Describe: The sites contain Alderwood gravelly sandy loam, Bellingham silt loam, Kitsap silt loam, and Arents-Alderwood soils. The vegetation between each site differs slightly but generally contains stands of native conifers (*Pseudotsuga menzeisii*, *Tsuga heterophylla*, etc.), hardwoods (*Acer macrophyllum*, *Alnus rubra*, *Salix spp.*, *Populus balsamifera*, etc.), and non-native, invasive species (listed above). The transmission corridor ROW areas are typically fragmented but are further fragmented by surrounding residential development. The likely supported habitat includes migratory songbirds and small mammals with some reports of coyotes (*Canis latrans*).

(6) Allowed work windows;

Yes ☒ or No ☐

Describe: Due to proximity to streams, wetland and steep slopes, no clearing and grading activity may typically occurring during the rainy season between November 1 and April 30. However, work may be granted approval if best management techniques are deployed prior to beginning site work. The applicant would like to proceed with the work as soon as possible to avoid regulatory conflicts.

(7) A clear delineation of the area within which clearing and other vegetation management practices are allowed under the plan; and

Yes ☒ or No ☐

Describe: Each site, including work proposed, is included within the vegetation management plan.

(8) Short- and long-term management prescriptions, including characterization of trees and vegetation to be removed, and restoration and revegetation plans with native species, including native species with a lower growth habit. Such restoration and revegetation plans shall demonstrate that the proposed Vegetation Management Plan will not significantly diminish the functions and values of the critical area or alter the forest and habitat characteristics of the site over time.

Yes ☒ or No ☐

Describe: The vegetation management plan includes work to manage vegetation at specific sites within the transmission line corridor. Short-term management of this vegetation includes removal of fast-growing hardwoods, removal non-native invasive vegetation from around transmission towers, issuance of vouchers to property owners for native trees,

snagging of two mature pine trees, and installation of lower-growing species to restore lost function. Long-term management includes monitoring of each site to verify function loss is mitigated and additional planting, per submitted BMPs, when functions are not mitigated correctly.

(C) Would any proposed tree removal result in a significant impact to habitat associated with species of local importance?

Yes ☐ or No ☒

Describe: No species of local importance have been identified or observed in the area. The trees proposed for removal will be converted to habitat snags per the standard detail submitted with the BMPs. Vouchers for native trees will be supplied to homeowners of property affected by snag creation.

If yes, can the impacted function be replaced elsewhere within the management area subject to the plan?

Yes ☐ or No ☐

Describe:

In no event may a tree or vegetation which is an active nest site for a species of local importance be removed pursuant to this subsection.

(D) Is the area under application subject to any applicable neighborhood restrictive covenants that address view preservation or vegetation management? The existence of and provisions of neighborhood restrictive covenants shall not be entitled to any more or less weight than other reports and materials in the record.

Yes ☐ or No ☒

If yes, describe:

III. Public Notice and Comment

Application Date: September 5, 2017

Public Notice (500 feet): October 19, 2017

Minimum Comment Period: November 2, 2017

The Notice of Application for this project was published in the City of Bellevue weekly permit bulletin on October 19, 2017. It was mailed to property owners within 500 feet of the project site. Comments were received from the public on November 2, 2017.

Summary of Comments:

Comment: *The plan notes the use of triclophyr to manage vegetation except in areas that are within 25 feet of wetlands and streams. How does Seattle City Light manage vegetation when work is needed within 25 feet of streams and wetlands?*

Response: Seattle City Light does not use triclophyr within 25 feet of a stream or wetland. Vegetation within 25 feet of a stream or wetland will be cut and allowed to resprout.

Comment: *It is noted that some sites have invasive plants. What is the plan to reduce invasive plants so that they do not become a seed source?*

Response: Seattle City Light does not attempt to eradicate class C noxious weeds through right of way vegetation management, and instead promotes low-growing native plant communities through its vegetation management operations. Vegetation management crews inspect clothing and equipment to avoid the spread and transmission of seeds and plant fragments.

IV. State Environmental Policy Act (SEPA)

Determination of Non-Significance (DNS) was issued by Seattle City Light as Lead Agency in 2010. A copy of the original SEPA DNS and the subsequent addendum (2017) was included with the submittal documents and will be included as an attachment to this report.

V. Critical Areas Land Use Permit Decision Criteria LUC 20.30P.140

The Director may approve or approve with modifications an application for a Critical Areas Land Use Permit if:

- A. The proposal obtains all other permits required by the Land Use Code; and
Yes ☒ or No ☐

Describe: The applicant/owner will be responsible for obtaining a Clearing & Grading permit to conduct vegetation management operations. See Section VII for condition of approval.

- B. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer; and

Yes ☒ or No ☐

Describe: The management work proposed is the minimal amount of work necessary to maintain federal transmission line vegetation requirements, and is in conformance with the BMPs submitted under past Seattle City Light vegetation pruning and removal permits.

- C. The proposal incorporates the performance standards of Part 20.25H LUC to the maximum extent applicable; and

Yes ☒ or No ☐

Describe: Work proposed will not alter the existing natural contours and will not result in the need for greater buffers on and off-site.

- D. The proposal will be served by adequate public facilities including streets, fire protection, and utilities; and
Yes ☒ or No ☐
Describe: The site is currently served by adequate public facilities.
- E. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC 20.25H.210; except that a proposal to modify or remove vegetation pursuant to an approved Vegetation Management Plan under LUC 20.25H.055.C.3.i shall not require a mitigation or restoration plan; and
Yes ☒ or No ☐
Describe: Mitigation and restoration will be in accordance with submitted BMPs, which includes removal of invasive species, habitat snag creation, native tree vouchers, and in some cases restoration planting.
- F. The proposal complies with other applicable requirements of this code.
Yes ☒ or No ☐
Describe: Demonstration of compliance with the other applicable requirements of the Bellevue City Code will be completed under the review of the required clearing and grading permit

VI. Conclusion and Decision

After conducting the various administrative reviews associated with this proposal, including Land Use Code consistency, SEPA, City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **approve with conditions** the vegetation management plan within the stream and wetland critical area.

Note- Expiration of Approval: In accordance with LUC 20.30P.150 a Critical Areas Land Use Permit automatically expires and is void if the applicant fails to file for a Clearing and Grading Permit or other necessary development permits within one year of the effective date of the approval.

VII. Conditions of Approval

The applicant shall comply with all applicable Bellevue City Codes and Ordinances including but not limited to:

<u>Applicable Ordinances</u>	<u>Contact Person</u>
Clearing and Grading Code- BCC 23.76	Savina Uzunow, 425-452-7860
Land Use Code- BCC 20.25H	David Wong, 425-452-4282
Noise Control- BCC 9.18	David Wong, 425-452-4282

The following conditions are imposed under the Bellevue City Code or SEPA authority referenced:

1. Clearing and Grading Permit Required: Approval of this Critical Areas Land Use Permit does not constitute an approval of a development permit. A Clearing and Grading Permit must be approved, and plans submitted as part of this permit application shall be consistent with the activity permitted under this approval.

Authority: Land Use Code 20.25H.055.i
Reviewer: David Wong, Land Use

2. Habitat Snag Detail: A copy of the submitted habitat snag creation standard detail shall be included with the Clearing & Grading Permit application prior to approval of work covered under this permit.

Authority: Land Use Code 20.25H.225
Reviewer: David Wong, Land Use

3. Mitigation for Tree Removal: Mitigation for tree removal shall be in accordance with the submitted BMPs and standard detail for habitat snag creation. Vouchers for the purchase of native trees shall be supplied to private property owners where tree snagging occurs.

Authority: Land Use Code 20.25H.225
Reviewer: David Wong, Land Use

4. Pesticides, Insecticides, and Fertilizers: The applicant must submit as part of the required Clearing and Grading Permit information regarding the use of pesticides, insecticides, and fertilizers in accordance with the City of Bellevue's "Environmental Best Management Practices".

Authority: Land Use Code 20.25H.080
Reviewer: David Wong, Land Use

5. Monitoring: Monitoring of sites where vegetation is removed or significantly altered, including significant trees and fast-growing saplings, shall occur for a period of no less than three (3) years, and will be required to verify that the BMPs are being met and that critical area and critical area buffer function loss is mitigated. Reporting at the end of each growing season is required to be submitted to the City and can be sent to dwong@bellevuewa.gov or to the address below:

Environmental Planning Manager
City of Bellevue
PO Box 90012
Bellevue, WA 98009-9012

Authority: Land Use Code 20.25H.220D
Reviewer: David Wong, Land Use

6. Noise Control: Noise related to construction is exempt from the provisions of BCC 9.18 between the hours of 7 am to 6 pm Monday through Friday and 9 am to 6 pm on Saturdays, except for Federal holidays and as further defined by the Bellevue City Code. Noise emanating from construction is prohibited on Sundays or legal holidays unless expanded hours of operation are specifically authorized in advance. Requests for construction hour extension must be done in advance with submittal of a construction noise expanded exempt hours permit.

Authority: Bellevue City Code 9.18
Reviewer: David Wong, Land Use

**SEATTLE CITY LIGHT
VEGETATION MANAGEMENT PLAN
EASTSIDE TRANSMISSION LINE**

FOR

**CRITICAL AREAS PERMIT
CITY OF BELLEVUE**

**SEATTLE CITY LIGHT
ENVIRONMENTAL AFFAIRS DIVISION**

SEPTEMBER 2017



Received
SEP 06 2017
Permit Processing

ACCEPTANCE STATEMENT

This Vegetation Management Plan has been prepared by Seattle City Light in cooperation with the City of Bellevue as a condition for a critical areas land use permit for managing vegetation in critical areas or critical area buffers within City Light's transmission line through Bellevue. This VMP conforms to performance standards for vegetation management stipulated in the City of Bellevue's Land Use Code at 20.25H.055.C.3.i. It has been prepared for a Critical Areas Permit for 2017 for those areas from critical areas excluded by the City of Bellevue in the Clearing and Grading permit authorizing clearing outside of those areas included in this plan.

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ACRONYMS AND ABBREVIATIONS

ANSI	American National Standards Institute
BMP	best management practice
CAO	Critical Areas Ordinance
FERC	Federal Energy Regulatory Commission
GPS	global positioning system
kV	kilovolt
NERC	North American Electric Reliability Council
NHPA	National Historic Preservation Act
OSHA	Occupational Safety and Health Administration
ROW	Right-of-way
City Light	Seattle City Light
TVMP	Transmission Vegetation Management Program
USDA	United States Department of Agriculture
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WECC	Western Electricity Coordinating Council
WISHA	Washington Industrial Safety and Health Administration
WSDA	Washington State Department of Agriculture

1.0 INTRODUCTION

Seattle City Light (City Light) owns and operates 657 miles of transmission line and manages more than 5,000 acres of associated right-of-way easement (ROW) in western Washington. City Light's 230-kV Eastside Transmission Line extends 32.5 miles from the Bothell Substation in Snohomish County, south into King County, and onto the Maple Valley Substation near Renton. The line runs through the cities of Bothell, Kirkland, Bellevue, Newcastle, and Renton, as well as parts of unincorporated King County. Approximately 7.3 miles of the Eastside Line (Mile 14.5 to 21.8) are within Bellevue. The ROW traverses several parks and open areas east of Interstate (I)-405, including Wilburton Hill Park and relatively steep forested slopes south of the Lake Hills Connector and Kelsey Creek.

While the primary purpose of the ROW for the Eastside Line is to provide a corridor for the safe transmission of electricity, it also serves several other uses that benefit the community and the environment. Portions of the ROW through Bellevue provide recreational opportunities, including trails, parks, and open spaces, that might otherwise not exist. In some locations, the ROW supports the only areas of native plant communities and wildlife habitat remaining in what is an otherwise highly developed urban setting. The ROW also serves as a movement corridor for wildlife between more highly developed areas that possess little habitat.

This Vegetation Management Plan (VMP) was developed to comply with the City of Bellevue (Bellevue) land use code (LUC). This VMP applies to four segments within the 7.3 miles of the ROW within Bellevue that are within critical areas or critical area buffers and thus excluded from the clearing and grading permit authorizing City Light's routine vegetation management activities in portions of the ROW outside of critical areas or critical area buffers in 2017.

Vegetation management is an allowed use in ROW's subject to applicable performance standards (LUC 20.25H.055.B). City Light's vegetation management within critical areas or critical area buffers is not considered routine maintenance under Bellevue's LUC. This VMP is intended to meet the provisions in LUC 20.25H.3.c.i. A summary of the relevant portions of this subsection of the LUC are paraphrased as follows:

- i. Noxious Species, including English ivy (*Hedera helix*), Himalayan blackberry (*Rubus armeniacus*), and evergreen blackberry (*Rubus laciniatus*) may be removed using hand labor and hand-operated equipment from a critical area buffer without a Critical Areas Land Use Permit or VMP.
- ii. Hazard Trees likewise may be removed from critical areas or critical area buffers without a Critical Areas Land Use Permit or VMP, provided other applicable provisions of this subsection are met, such as documenting the hazard to the Director using the appropriate form prepared by a certified arborist or as otherwise stipulated; removed vegetation is left on within the critical area or critical area buffer; and removed trees are replaced (as applicable).
- iii. To protect forest health from the spread of disease or damaging insects or control fire, diseased or infested vegetation may be removed provided the removed

- vegetation is replaced subject to a restoration plan conforming to LUC 20.25H.210.
- iv. This subsection allows vegetation removal when required to comply with International Fire Safety Code, Section 304.12 as adopted and amended by Bellevue provided the removed vegetation is replaced subject to a restoration plan conforming to LUC 20.25H.210.
 - v. This subsection indicates that vegetation removal is allowed in critical area or critical area buffers as part of an ongoing routine maintenance plan for utility projects subject to the VMP meeting the requirements of subsection B of this section.
- B. The VMP shall include:
- (1) A description of existing site conditions, including existing critical area functions and values;
 - (2) A site history;
 - (3) A discussion of the plan objectives;
 - (4) A description of sensitive features;
 - (5) Identification of soils, existing vegetation, and habitat associated with species of local importance present on the site;
 - (6) Allowed work windows;
 - (7) A clear delineation of the area within which clearing and other vegetation management practices are allowed under the plan; and
 - (8) Short- and long-term management prescriptions, including restoration and revegetation requirements. Cleared areas shall be restored and revegetation with native species to the extent such vegetation does not interfere with the function of the allowed structure, trail, facility or system.
- vi. This subsection specifies that the Director may approve vegetation replacement [sic] within a geologic hazard critical area or critical area buffers in accordance with a VMP specifying the pruning methods in subsection C.3.i.vii of this section and a modified version of subsection C.3.i.v.(B)(8).
 - vii. This subsection identifies specific pruning techniques that can be practiced in geologic hazard critical areas or geologic hazard critical area buffers with hand labor and hand-operated equipment without a Critical Areas Land Use Permit or VMP provided the area is not included in a Native Growth Protection Area or Native Growth Protection Area Easement and the vegetation is not an active nest for species of local importance.

1.1 Description of Proposed Work Areas

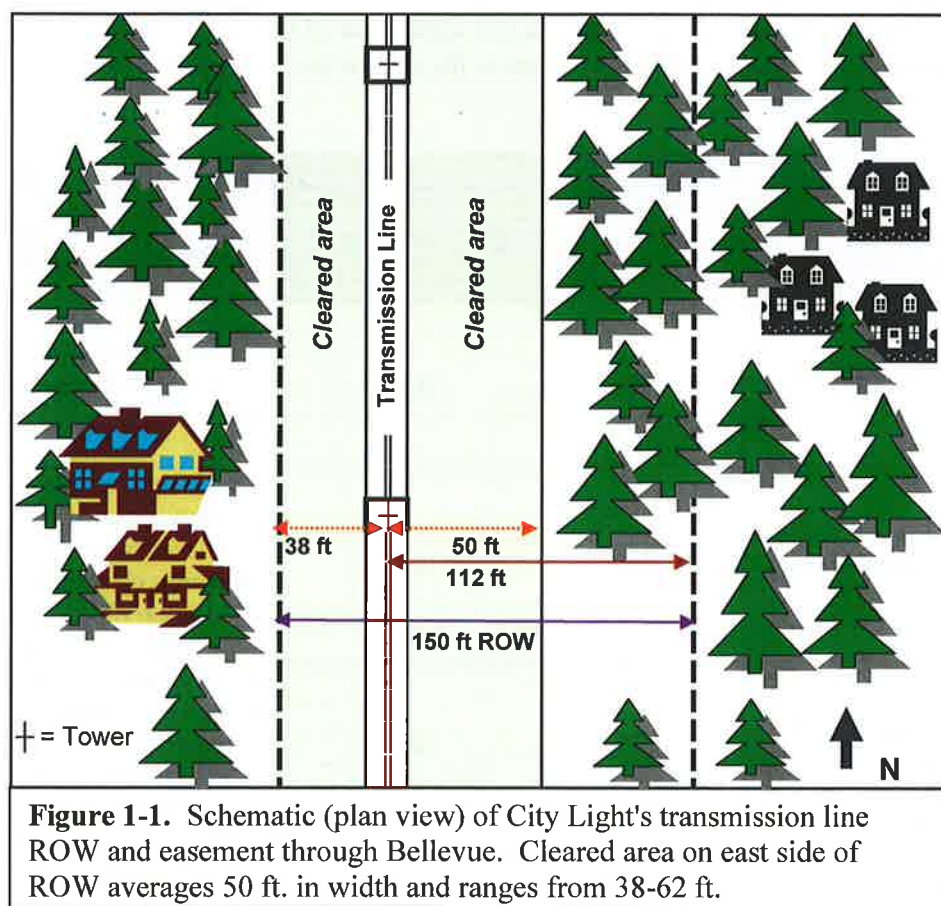
As noted above, only four segments of City Light's Eastside Transmission Line that were excluded from the clearing and grading permit recently granted is included in this VMP. Collectively, these segments total approximately 5,575 ft. of the 7.3-mile-long ROW. These are described and shown in Table 1-1.

Although there is currently a single row of towers, the ROW for the Eastside Line was designed to accommodate two parallel transmission lines and a double row of towers. Consequently, the one existing transmission line does not follow the center line of the ROW (Figure 1-1). The ROW is 150 feet wide and extends for 112 feet to the east of the transmission centerline and 38 feet to the west as depicted.

Table 1-1. Vegetation management areas subject to City of Bellevue LUC 20.25H.055.B

Segment of ROW	Length of Transmission Line (ft)	Approximate Area of ROW (ac)	Proposed Activity	Figure
Tower B15/17S to B15/28S (Cherry Crest)	1,100	3.8	Remove fast-growing hardwood saplings ^a by hand and clear invasive species (300 sq. ft.) around towers	1-2
Tower B16/49S to B17/07S (Bellevue School District (BSD))	1,050	1.2	Remove 5 black cottonwoods and 1 pine on Bellevue School District property; clear Himalayan blackberry from around tower B17/07S	1-3
Tower B17/15S to B17/43S (Wilburton)	3,075	10.6	Remove marked pine ~300 ft. north of tower B17/15S and selectively remove fast-growing hardwood saplings ^a by hand	1-4
Tower B19/28S to B19/33S (Factoria)	350	0.4	Selectively remove fast-growing hardwood saplings ^a by hand; clear Himalayan blackberry with brush mower	1-5
Totals	5,575	16		

^a Fast-growing hardwood saplings include willows (*Salix* spp.), red alder (*Alnus rubra*) and black cottonwood (*Populus balsamifera*).



1.2 Site History

Site history has not changed generally in the ROW within the last several decades since the Skagit Hydroelectric Project was completed (please refer to City Light's 2010 Vegetation Management Plan, which is in the City of Bellevue's files). City Light has generally managed the vegetation within the transmission line corridor to reduce the potential hazards and provide safe, reliable electric power to our customers. In general, this has meant maintaining the stature of the forest to younger successional phases that do not include large trees or shrubs that could result in line outages and potentially hazardous or dangerous conditions to nearby residents, businesses, or wildlife that could result in electrocution and fires. As the areas surrounding the ROW have become increasingly developed since the project was completed, the importance of managing the vegetation to provide a safe environment to the surrounding community has only become more important. At the same time, City Light remains committed to manage the ROW with a light touch to provide water quality, hydrologic, habitat and other functions and values associated with the natural environment beneath the transmission lines.

1.3 Existing Conditions

Existing conditions within the various segments are briefly described including dominant plant species and general vegetation structure, functions and values for the different critical area types. As the functions and values are generally the same for the different critical areas, the descriptions below apply to all the segments where vegetation management is proposed to avoid repetition of the same information. Table 1-2 summarizes existing condition for each ROW segment:

Table 1-2. Summary of existing conditions within vegetation management areas.					
Segment of ROW	Critical Area	Vegetation/Habitat Quality	Soils¹	Streams	Comments
Tower B15/17S to B15/28S (Cherry Crest)	Steep Slope (40%)	Primarily dense non-native and invasive species	Alderwood gravelly sandy loam	Unnamed Asphalt Ditch	See Figure 1-2 and Appendix A
Tower B16/49S to B17/07S (Bellevue School District (BSD))	Steep Slopes (40%)	Mix of young deciduous forest and invasive species	Alderwood gravelly sandy loam	None	See Figure 1-3 and Appendix A
Tower B17/15S to B17/43S (Wilburton)	Stream, Wetlands, and Steep Slopes (40%)	Diverse with some assemblages of native plants	Alderwood gravelly sandy loam; Bellingham silt loam; Kitsap silt loam; Arents, Alderwood	Wilburton Trib and Kelsey Creek ²	See Figure 1-4 and Appendix A
Tower B19/28S to B19/33S (Factoria)	Steep Slopes (40%)	Highly developed with some areas of native but primarily landscaped vegetation	Alderwood gravelly sandy loam	None	See Figure 1-5 and Appendix A
¹ Soils within the ROW as mapped by the NRCS Web Soil Survey (accessed online August 21, 2017); ² Wilburton Tributary is variously referred to as non-fish bearing and potentially fish bearing in the City of Bellevue's GPS data (see Figure 1-4); Kelsey Creek is fish bearing					

For more general information on the geology, topography, soils and western hemlock zone vegetation found within this portion of the Puget Trough Physiographic Province, please refer to City Light's 2010 Vegetation Management Plan, which is in the City of Bellevue's files.

1.3.1 Geologically Hazardous Areas - Slopes Greater Than 40 Percent

All four segments of City Light ROW contain or are near steep slopes greater than 40% grade. Soils may be of variable character (e.g., permeability and other physical and chemical properties) but all have evolved following retreat of the Cordilleran icecap during the last glacial epoch about 14,000 years ago.

According to the NRCS (Web Soil Survey, accessed online August 21, 2017), soils on mapped slopes greater than 40% (see Figures 1-2, 1-3, 1-4 and 1-5) are predominantly gravelly sandy loams that have developed in glacial till, particularly Alderwood series, which generally have relatively high permeability and infiltration rates and contribute to recharge of shallow groundwater resources and base flow in streams. Areas mapped as Alderwood may contain inclusions of up to percent of hydric (wetland) soil types, according to the NRCS. Inclusions of hydric soil are present in wetlands present on slopes near the south end of Wilburton Hill Park (see Figures 1-4). Soils on north-facing slopes near tower B19-43S are mapped as a combination of Alderwood gravelly sandy loam and Kitsap silt loam.

Like Alderwood series, the NRCS indicates that Kitsap silt loam map units may contain up to 3 percent of inclusions of hydric soils though no wetlands have been identified in the ROW to date. Disturbed (bare) soils on steep slopes may be susceptible to erosion; Bare soils within the ROW are limited to Bellevue Parks trails within Wilburton Hill Park and social trails. Existing managed vegetation has prevented erosion, such as rill and gully formation or mass wasting. Undisturbed, vegetation on soils in undeveloped areas, such as those in the ROW, help to protect water quality and quantity (hydrology) in wetlands and streams by preventing erosion and delivery of sediments to these resources. The level of those functions depends on the land uses within the larger contributing watershed areas of the associated wetlands and streams.

As the ROW generally comprises only of a small fraction of the total contributing area to the Wilburton Tributary (see Figures 1-3 and 1-4), Kelsey Creek and associated wetlands, these functions are proportionately small. By contrast, the relative high proportion of developed land uses (especially impervious surfaces) within the watersheds of these critical areas generally contribute to adverse effects on wetlands and aquatic resources via stormwater runoff. In other words, the managed vegetation within the ROW and undisturbed soils help to prevent erosion and mass wasting on slopes greater than 40 percent and protect water quality and hydrology of wetlands and streams.

In addition to providing water quality and hydrologic functions, vegetation in the ROW provides habitat to plants and animals commonly found in urban areas. The managed vegetation within the ROW also provides corridors for wildlife movement to other patches of undeveloped habitat, helping to maintain populations of plants and animals found there. “As described in the 2003 Bellevue Critical Areas Update Best Available Science Paper: Wildlife (City of Bellevue, 2003) riparian areas and forested steep slopes comprise the majority of Bellevue’s remaining habitat corridors and linkages.”

1.3.1.1 Vegetation/Habitat Quality

The habitat quality within these areas varies depending on the vegetation structure in the ROW and adjacent areas. Much of the ROW between tower B15/17S and B15/28S (Cherry Crest) (see Figure 1-2) is characterized by dense non-native and invasive species (e.g., Himalayan blackberry, Scot’s broom, English ivy, and cherry laurel). The remainder of this segment consists of patches of red alder and other fast growing deciduous species that are part of landscaped areas, which also contain conifer saplings in the understory along 124th Avenue NE

(see photographs in Appendix A). There are patches of relatively mature forest dominated by Douglas fir in adjacent area but habitat is highly fragmented by residential development. This habitat likely supports populations of resident and migratory songbirds and small mammals (e.g., raccoon, opossum, rats, shrews, moles) commonly found in such habitat.

Habitat quality between towers B16/49S and B17/07S (BSD) (Figure 1-3) is limited by the following factors:

- Bellevue School District (BSD) clearing and grading to develop a new school on parcel #3325059019 leaving a small strip of vegetation under the City Light's ROW (see photographs in Appendix A);
- This ROW segment parallels 124th Avenue NE, a busy roadway;
- Surrounding parcels are developed, primarily by BSD;
- The only remaining "undeveloped" areas in the vicinity are within Wilburton Hill Park and Bellevue Botanical Garden;

Vegetation within the upland areas of Wilburton Hill Park include mature stands of big leaf maple, conifers and mixed stands of mature conifers and deciduous trees. The understory includes native shrubs and forbs. The Bellevue Botanical Garden, adjacent to the ROW, also includes stands of mature coniferous forest plant associations. These habitats likely support a somewhat more diverse assemblage of native fauna but still primarily those songbirds and small mammals commonly found in urban areas that are adapted to relatively high levels of human activity. Coyotes have been reported in this area.

Within the ROW, the steep slopes between towers B17/15S and B17/43S (Wilburton) possess more structurally diverse and complex habitat (see Figure 1-4). Dense patches of invasive species, such as Himalayan blackberry and one-seed hawthorn are common but assemblages of native plant associations also are present. Within the ROW on the south end of Wilburton Hill Park, fast-growing deciduous trees, including black cottonwood, red alder, and Scouler willow are common (see photographs in Appendix A). There also are scattered native conifers within the ROW.



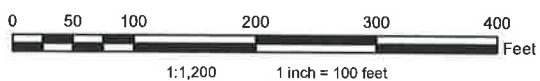
Seattle City Light

Eastside Transmission Line

2017 Vegetation Management
Towers B15/17S to B15/28S

Figure 1 - 2

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Environment, Land and Licensing Business Unit.
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as to the accuracy, reliability or completeness of this data.





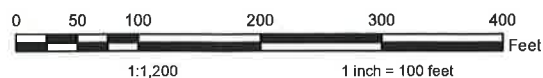
Seattle City Light

Eastside Transmission Line

2017 Vegetation Management
Towers B16/49S - B17/07S

Figure 1 - 3

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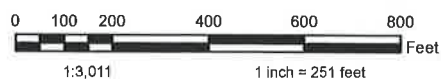
Seattle City Light

Eastside Transmission Line




2017 Vegetation Management
Towers B17/15S - B17/43S

Figure 1 - 4

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 Seattle City Light	<h2 style="text-align: center;">Eastside Transmission Line</h2> <p style="text-align: center;">2017 Vegetation Management Towers B19/28S - B19/33S</p> <p style="text-align: right;">Figure 1 - 5</p>	
<p>Created 9/5/2017 by Seattle City Light, Environment, Land and Licensing Business Unit. SCL provides no warranty, expressed or implied, as to the accuracy, reliability or completeness of this data.</p>	<div style="text-align: center;">  <p>1:1,200 1 inch = 100 feet</p> </div>	

Tower B19/28S to B19/33S (Factoria) abuts Factoria Mall on the east side and I-405 on the west side (see Figure 1-5). Landscaped vegetation borders along the roadway and Factoria Mall parking lot include ornamental maples, laurel hedge, arbor vitae. Vegetation underneath the powerlines include dense stands of Himalayan blackberry, Douglas fir, big leaf maple, black cottonwood. Photographs of this location are contained in Appendix A.

The LUC 20.25H.150.A identifies 23 species of fish and wildlife as species of local importance, including a number of bird and bat species, which may forage within or above habitat on steep slopes. Although the WDFW's Priority Species and Habitats Database (which includes information on the distribution of all priority species in the state) has no records of observations of any priority wildlife species within the transmission line ROW through Bellevue (maps and data from WDFW accessed online August 22, 2017) and no nests or roosts of these species of local importance were observed during site reconnaissance surveys completed by City Light biologists, it is likely that some priority wildlife, particularly birds such as the bald eagle (*Haliaeetus leucocephalus*) pileated woodpecker (*Dryocopus pileatus*), and great blue heron (*Ardea herodias*), use habitats in and near the Eastside ROW at least occasionally. Pileated woodpecker, red-tailed hawk (*Buteo jamaicensis*) western big-eared bat (*Plecotus townsendii*), Vaux's swift (*Chaetura vauxi*) and bat (*Myotis spp.*) species may forage in or over forested habitat on steep slopes and roost in trees within the ROW or adjacent to it.

1.3.2 Wetlands and Streams

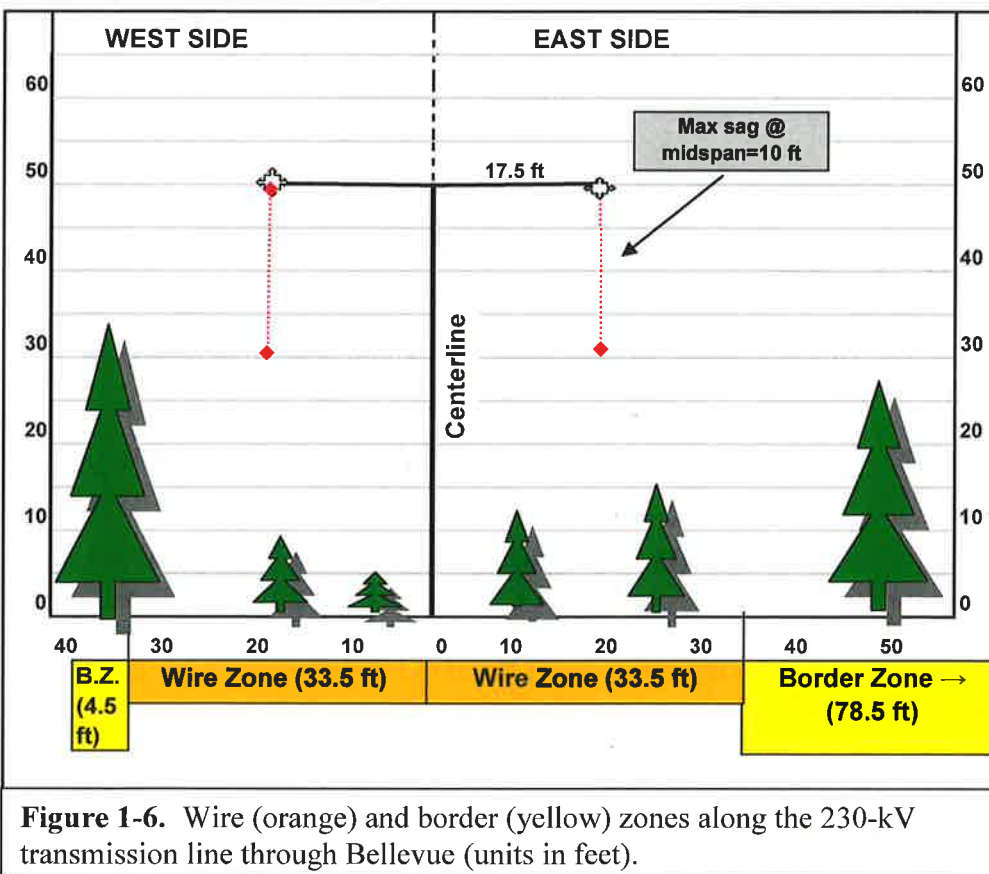
Slope wetlands and a couple of streams are present in the area where some of the proposed vegetation management would occur. Wilburton Tributary originates on the slopes of the Bellevue Botanical Garden as a non-salmonid stream (see Figure 1-4). Near the Bellevue International School, the stream enters the Hyak Jr. High School Wetland and then flows into Kelsey Creek. The lower end of the tributary is identified as a possible fish-bearing stream by the City of Bellevue GIS data.

The Eastside transmission line crosses Kelsey and Coal creeks, which both support populations of native salmonids. Coal Creek is consistently used by coho salmon (*Oncorhynchus kisutch*) for spawning, although the population has also been substantially supplemented by the WDFW. Spawning by sockeye (*O. nerka*) and Chinook salmon (*O. tshawytscha*), a federally-listed threatened species, also occurs. Winter steelhead (*O. mykiss*), another federally-listed threatened species, as well as resident cutthroat trout (*O. clarki*) are also present in Coal Creek (WDFW 2009); non-salmonid species that potentially occur include sculpins (*Cottus spp.*), dace (*Phoxinus neogaeus*), stickleback (*Gasterosteus aculeatus*), and lampreys (*Lampetra spp.*) (King County web site <http://green.kingcounty.gov/WLR/Waterres/StreamsData/WaterShedInfo.aspx>) accessed on August 25, 2017 and StreamNet <http://www.streamnet.org/data/interactive-maps-and-gis-data/> accessed on August 25, 2017.

2.0 PROPOSED VEGETATION MANAGEMENT

By law City Light is required to manage vegetation within transmission line ROWs in a way that ensures the safe and reliable delivery of electricity. This means that trees must be prevented from growing into or contacting the lines to avoid power outages, fires, and other hazards. In general, City Light follows “wire zone-border zone” concept, as recommended by the American National Standard Institute (ANSI) A300 (Part 7), for managing ROW vegetation (ANSI 2006). The wire zone for the Eastside Line extends 33.5 feet on either side of the center line and includes the 17.5 feet-wide area beneath the tower arm and wires and an additional 16 feet beyond the edge of the energized conductor. The border zone extends from the edge of the wire zone to the outer edge of the established ROW (Figure 1-6).

Allowable tree heights within the ROW and border zones are shown in Figure 1-7. City Light proposed vegetation management is to selectively remove invasive species and fast-growing hardwoods. Most of this work would be done by hand as noted in Table 1-1 above. This would result in temporary changes to vegetation structure and minimize potential impacts to critical area functions. Temporary changes to vegetation structure would be short lived as most



vegetation management involves the cutting of fast-growing deciduous species that resprout (e.g., willows and black cottonwood).

2.1 *Regulatory Background for Vegetation Management*

Regulations governing the reliable transmission of power are developed by the North American Electric Reliability Corporation (NERC) at the federal level and enforced by the Western Electricity Coordinating Council (WECC) at a regional level. On August 14, 2003, an electric power blackout affected large portions of the Northeast and Midwest United States and Ontario, Canada. A joint U.S.-Canada Power System Outage Task Force (Task Force) investigated the causes of the blackout and concluded that one of the four primary causes was inadequate vegetation management (Federal Energy Regulatory Commission [FERC] 2004). As a result, the NERC developed new standards for transmission vegetation management programs (TVMPs), in effect as of April 7, 2006, that were intended to improve the reliability of electric transmission systems by:

- Preventing outages from vegetation located on ROWs;
- Minimizing outages from vegetation adjacent to ROWs
- Maintaining clearances between transmission lines and vegetation on and along transmission ROW; and
- Universal reporting of vegetation-related outages of the transmission systems to the respective regional reliability organizations (RROs) and NERC.

The new standards for reporting categorize an outage as one of the following:

Category 1 — Grow-ins: Outages caused by vegetation growing **into** lines from vegetation inside and/or outside of the ROW;

Category 2 — Fall-ins: Outages caused by vegetation falling into lines from **inside** the ROW;

Category 3 — Fall-ins: Outages caused by vegetation falling into lines from **outside** the ROW.

Vegetation management is one of 83 reliability standards enforced by the NERC and WECC. As of June 2007, penalties for non-compliance with one or more of the standards range from sanctions that impose limitations or restrictions on activities; remedial action directives designed to correct conditions, practices or other actions posing a threat to reliability; and fines of \$1,000 to \$1 million per day (NERC 2007).

Information from the literature suggests that trees growing into power lines (Category 1) account for less than 15 percent of all tree-related outages. The numbers of trees capable of striking power lines from outside the ROW (Category 3) overwhelm the numbers of trees on the ROW and are typically the cause of most outages, particularly under severe weather conditions (Guggenmoos 2001).

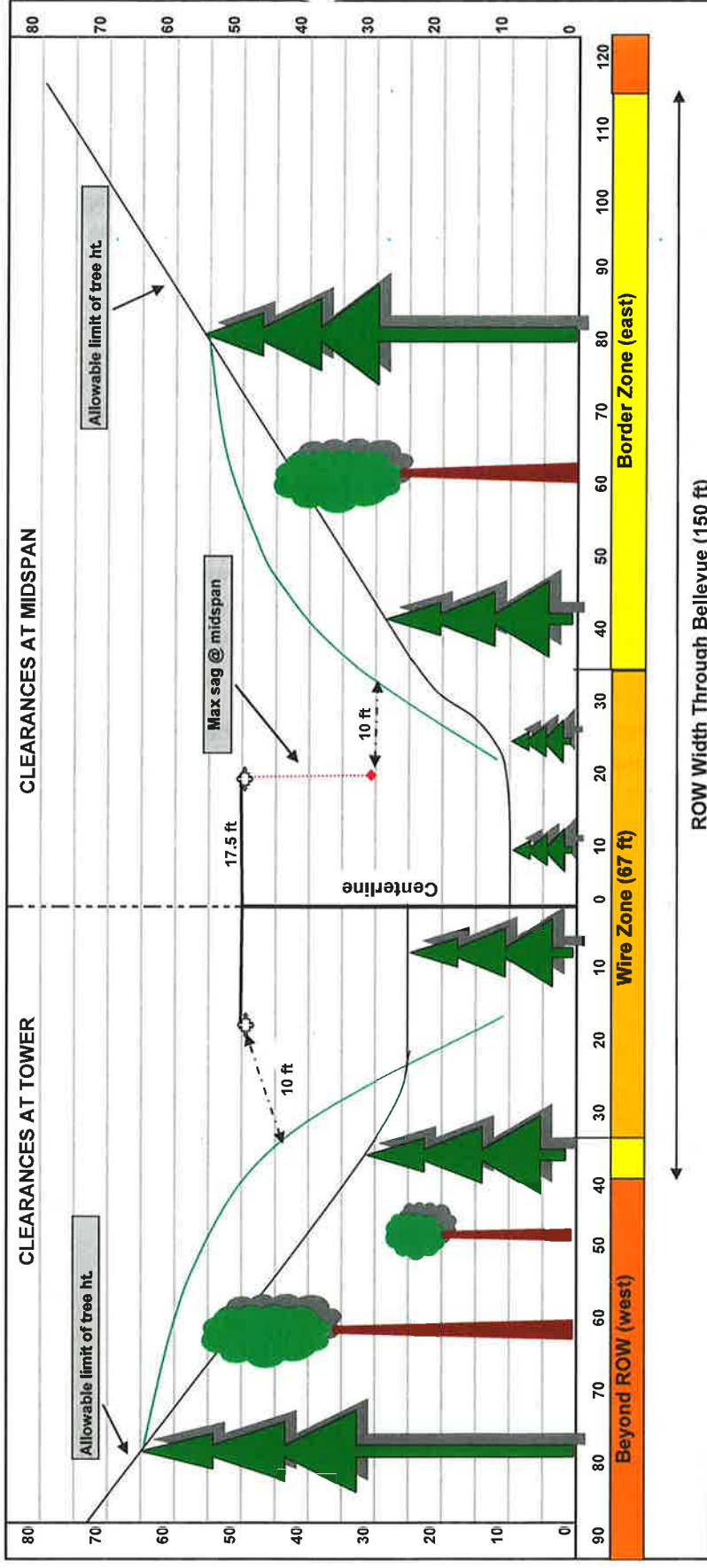


Figure 1-7. Allowable tree height limits along a 230 kV transmission line ROW and border zones (units are in feet).

City Light is required to implement the NERC standards for maintaining electric transmission reliability and reducing power outages. These standards are the basis for vegetation management and reporting within City Light's easements. Vegetative management includes identifying high risk trees (living and dead) which have high potential to fail and endanger powerlines. Consequently, City Light must have:

- (1) clear guidelines for vegetation management activities which their vegetation maintenance staff and crews can easily understand, explain, and implement;
- (2) reasonable inspection schedule and tree removal approval timeframes with Bellevue to efficiently protect the transmission line, schedule work crews, and be responsive after impacts from storm events;
- (3) procedures and communication protocols that allow the utility to respond to emergencies and to remove trees that represent an imminent hazard to the transmission lines because they are dead, dying, diseased, cracked, split, or leaning over the line or into the wire zone; and
- (4) the ability to remove small trees within the wire zone before they become significant trees. This does not refer to all small trees, but to those species considered unsuitable because they have a mature height incompatible with conductor clearance requirements.

2.2 Goals, Objectives, and Best Management Practices

City Light's existing Vegetation Management and Maintenance Plan (VMMP) establishes Best Management Practices (BMP) to guide routine and emergency vegetation management within the ROW for City Light's Eastside Line. The intent of the VMMP is to provide a basis for communication between City Light and the City of Bellevue so that vegetation management activities are coordinated between the two parties and that any environmental issues are appropriately addressed. The VMMP establishes goals and objectives for managing vegetation within the ROW; defines specific activities and BMPs to meet these goals and objectives; and describes coordination between City Light, the City of Bellevue, and Bellevue residents with property in and along the ROW. The goals and objectives below are excerpted from the VMMP.

2.2.1 Goals and Objectives

To meet the purpose and intent of this Plan, City Light's vegetation management activities will be guided by the following general goals and objectives.

Goal 1. Promote the establishment and maintenance of vegetation within the transmission ROW that is compatible with the continued delivery of electricity in a safe, reliable, and economically effective manner.

Objective 1a: Manage vegetation in the transmission corridor in a way that promotes low-growing tree, shrub, and grass/forb communities appropriate to the surrounding area.

Objective 1b: Replace trees removed from the ROW with tree and shrub species that are compatible with the transmission line and land uses in the ROW.

Goal 2. Protect resources in identified Critical Areas, parks, and designated open space that are bisected by the ROW.

Objective 2a: Manage vegetation in a way that protects fish and wildlife habitat along streams and in wetlands and in associated buffers.

Objective 2b: Manage vegetation in a way that protects soil structure and stability on steep slopes.

Objective 2c: Minimize erosion and the establishment and spread of noxious weeds in site with ground disturbance resulting from vegetation management or transmission line maintenance.

Goal 3. Coordinate annual vegetation management activities along the ROW through Bellevue with the City of Bellevue, residents with property in and along the ROW, and state and federal agencies as needed.

Objective 3a: Meet with the City of Bellevue, Parks and Community Services Department, at the beginning of each year to discuss planned management schedule and activities along the ROW.

Objective 3b: Notify private land owners along the ROW prior to tree removal activities on their land.

Objective 3c: Develop and implement a process to review this Plan every four years, and revise and update as necessary.

Objective 3d: Comply with all applicable local, state, and federal environmental regulations.

2.3 Roles and Responsibilities

Ongoing planning and coordination between City Light and the City of Bellevue will be facilitated by the establishment of clear roles and responsibilities for each party. Implementation of the Plan is the responsibility of City Light; however, the City of Bellevue will have a continuing role in coordination and updates to the VMMP, as applicable.

2.3.1 Seattle City Light

- Plans and conducts vegetation maintenance along the ROW.
- Coordinates with the City of Bellevue on planning and scheduling vegetation management activities, updating maps of priority species, and developing any site-specific measures needed to protect resources in Critical Areas, parks, or designated open space.
- Implements identified site-specific measures to protect resources in Critical Areas, parks, and designated open space.
- Provides vouchers for replacing trees that are removed from within and along the ROW.
- Works with the City of Bellevue to update the VMMP every 4 years, including Critical Area, Park, and Designated Open Space maps.
- Prepares and submits reports on herbicide application, as required by the Washington State Department of Agriculture.

2.3.2 City of Bellevue Parks and Community Services Department

- Ensures that tree and shrub species planted within the ROW on City of Bellevue property are compatible with the transmission line.
- Maintains all trees and shrubs planted by the City of Bellevue Parks and Community Services Department within the ROW through Wilburton Hill Park at a height < 15 feet or reimburses City Light to trim or remove the vegetation per the easement for this location (see Easement in Appendix B).
- Coordinates with the City Light annually on planning and scheduling vegetation management activities and the development of any site-specific measures needed to protect resources in Critical Areas, parks, or designated open space.
- Coordinates with City Light on vegetation management activities at sites within the ROW that could potentially complement wildlife habitat and native plant restoration objectives for areas near the transmission corridor.
- Provides City Light with periodic updates to lists of priority wildlife species within the ROW through Critical Areas, parks, and designated open space.
- Participates with City Light in the periodic updates of the Plan.

2.4 BMPs for Vegetation Management

City Light follows a set of standard BMPs for vegetation clearance, regardless of location. Implementation of other BMPs depends on site conditions.

2.4.1 Standard BMPs

Standard BMPs for clearance and side-pruning in urban and residential areas include the following

- Property owners will be notified prior to clearance activities and provided with the rationale for the need for clearance. Property owners will also be notified if City Light expects to use herbicide to prevent deciduous tree re-growth.
- Small trees and shrubs will be cut to the ground in urban and residential areas with stumps left in place an < 2 inches high) to avoid being a trip hazard.
- Slash will be removed from the site, unless otherwise requested by the property owner. This material will be moved to the chipper in way that minimizes damage to nearby vegetation.
- Stumps of all cut hardwood tree and large shrub species will be treated to prevent re-growth using Pathfinder 2 (active ingredient triclopyr) unless otherwise requested by the

property owner, or within a wetland or 25 feet of a stream. Stumps will be treated as soon as practical following cutting, with herbicide applied to the outermost bark ring and the remaining trunk and root collar. Application will be by backpack sprayer and will be consistent with label instructions and standard work practices.

- Trees will be pruned following ANSI A300 (Part 1) standard practices, which include using the minimum number of cuts needed to accomplish the objective; considering the natural structure of the tree; and cutting to the laterals or parent branch. Cedar branches will be feathered instead of blunt cut. Articulated mower heads will not be used for side-pruning.

2.4.2 BMPs for Work in Critical Areas, Parks, and Designated Open Space

Additional BMPs for ROW vegetation clearance and side-pruning in Critical Areas, parks, and designated open space include the following:

- With the exception of mowers, vehicle use will be confined to existing roads and trails.
- Mowers will be set at a height that does not remove vegetation to ground level or scour the soil.
- Removal of vegetation other than trees and shrubs identified for clearance will be minimized. Crews will strive for minimal disturbance of native vegetation to reach the shrubs and trees designated for removal.
- Slash that remains on site will be lopped and scattered. Slash that cannot be moved to the chipper without damaging nearby vegetation will be lopped and scattered.
- Herbicide will not be used to treat cut stumps of brush in wetlands, within 25 feet of streams, or during the rainy season (November – April).

When possible, clearance activities will be scheduled outside the spring/early summer season to avoid impacts to nesting birds.

2.5 Mitigation

Utilities, including City Light, do not typically mitigate for routine vegetation management as impacts to canopy cover and ecological processes are minimal. Proposed vegetation management within critical areas described herein will result in minor, short-term changes in vegetation structure. These are unlikely to result in more than minimal impacts on critical areas or their associated functions and values. Thus no mitigation or restoration appears warranted and none is proposed.

2.6 Plan Implementation Summary

In the 2010 City Light Vegetation Management (Bellevue files), an implementation of four separate but inter-related programs, each dealing with a specific aspect of ROW vegetation management:

- Annual Hazard Tree Inspection and Management
- Routine ROW Inspection and Clearance
- Emergency Inspection and Response
- Planning and Coordination

(Sections incorporated here by reference).

3.0 LITERATURE CITED

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APPENDIX A - SITE PHOTOGRAPHS



B15/175 – B15/285 Looking north from the north end of 124th Ave NE at landscaping under the transmission lines on May 25, 2017.



B15/175 – B15/285 Looking south from landscaped area north of mapped West Tributary (does not exist). Topography slopes eastward.



B15/175 – B15/285 Looking north at landscaping under the transmission lines north of the north end of 124th Ave NE on 5/25/17.



B15/175 – B15/285 Looking south along 12th Ave NE at the large cherry laurel hedge adjacent to tower B15/285.



B15/175 – B15/285 Looking north along 12th Ave NE at the large cherry laurel hedge from near tower B15/285.



B15/175 – B15/285 Looking south southwest along NE 26th Pl at the other West Tributary stream, which is an asphalt-lined ditch (5/25/17).



B16/49S – B17/07S Looking south at dense reed canarygrass and hardwood saplings under the transmission line from near B16/49S.



B16/49S – B17/07S Looking south southwest from the same location near B16/49S at a large black cottonwood and Douglas fir to the west.



B16/49S – B17/07S Looking north northwest from near B17/07S in Wilburton Hill Park at cottonwoods to be removed (arrows).



B16/49S – B17/07S Looking south southwest at tower B17/07S and dense Himalayan blackberry and other shrubs on May 25, 2017.



B17/07S – B17/15S Looking south at mixed hardwood saplings (foreground) near tower B17/15S and Douglas firs beyond the lines.



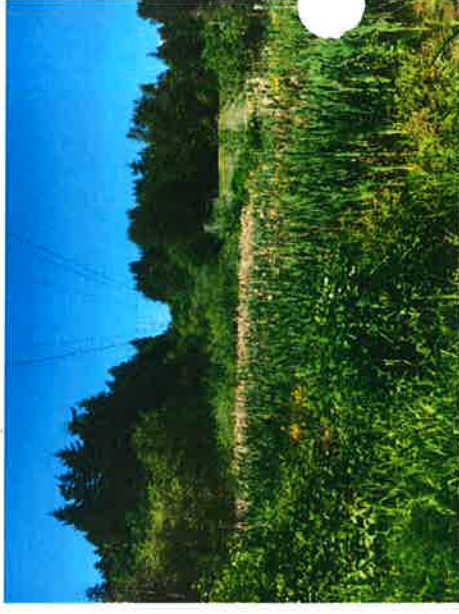
B17/07S – B17/15S Looking north from tower B17/15S at rose, blackberry, and mixed hardwood saplings under the lines on 5/25/17.



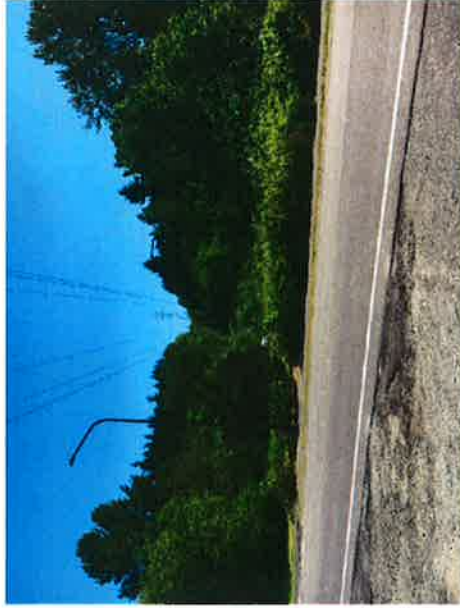
B17/155 – B17/435 Looking north from the gravel trail to Bellevue International School at dense blackberries and hardwood saplings. Tower B17/155 is visible in the background.



B17/155 – B17/435 Looking south from the gravel trail to Bellevue International School at dense blackberries and hardwood saplings in Hyak Jr. High School Wetland A on May 25, 2017.



B17/155 – B17/435 Looking north across Hyak Jr. High School Wetland A from the gravel turnout off SE 7th Place on May 25, 2017. Tower B17/155 is visible in the background.



B17/155 – B17/435 Looking south across SE 7th Pl and wetlands associated with Kelsey Creek on May 25, 2017. Tower B17/435 is visible in the background.



B17/155 – B17/435 Looking at dense blackberry and mixed deciduous and coniferous forest on the slope below Tower B17/435 from SE 9th Place.



B17/155 – B17/435 Looking north across the Lake Hills Connector at mixed hardwood saplings growing in the Kelsey Creek wetland from SE 9th Place.



B19/28S – B19/33S Looking north northwest on June 7, 2017 at dense blackberry, and Douglas fir, bigleaf maple, and black cottonwood (at left) near tower B19/28S to be side trimmed.



B19/28S – B19/33S Looking west northwest on June 7, 2017 at dense blackberry and bigleaf maple and black cottonwood adjacent to tower B19/28S to be side trimmed.



B19/28S – B19/33S Looking west southwest on June 7, 2017 at dense blackberry, and Douglas fir, bigleaf maple and black cottonwood adjacent to tower B19/28S to be side trimmed.

APPENDIX B - HAZARD TREE RATING FORM

SCL HAZARD TREE ASSESSMENT FORM

Date:

Tree #: _____ **DBH:** _____ **Height:** _____

Species: _____ **# of Trunks:** _____

Hazard Level 1 (check all that apply)

- | | |
|--|---|
| | Completely dead |
| | Partially dead |
| | Cracks or splits in the trunk or major branches |
| | Leaning at >20 degree angle |
| | Evidence of disease - loose or cracked bark |
| | Evidence of disease-decay |
| | Evidence of disease-cankers encompassing more than half the tree circumference |
| | Evidence of disease-conks or mushroom bracts |
| | Evidence of disease-infestation by ants, termites, or boring insects |
| | Evidence of disease-within, yellowish (necrotic) foliage |
| | Obviously weak or diseased root system |
| | Apparently healthy Douglas-fir but within 15 ft of a tree with laminated root rot |

Hazard Level 2 (check all that apply)

- | | |
|--|--|
| | Defective branches; |
| | Cavities and holes; |
| | Forks, crooks, spike branches, or multiple stems; or |
| | Evidence of minor root system decay |

Comments:

APPENDIX C - PROPOSED VEGETATION MANAGEMENT NOTIFICATION SIGN

NOTICE

**SEATTLE City Light HAS CONDUCTED AN ASSESSMENT IN THIS AREA
AND HAS IDENTIFIED TREES THAT REPRESENT A HAZARD TO THE
OVERHEAD TRANSMISSION LINES**

CREWS WILL BE REMOVING THESE TREES BETWEEN:

AND

QUESTIONS? PLEASE CALL

(206) –

APPENDIX D - COMPATIBLE NATIVE TREE AND SHRUBS SPECIES FOR REPLACEMENT PLANTING

NATIVE SHRUBS SUITABLE FOR WIRE-BORDER ZONE PLANTING

Wire Zone: Low Shrubs (<15 feet)		Border Zone: Tall Shrubs & Small Trees (16-35 feet)	
Species for Mesic Sites	Height at Maturity*	Species for Mesic Sites	Height at Maturity
Kinnikinnick <i>Arctostaphylos uva-ursi</i>	<1	Vine maple <i>Acer circinatum</i>	22
Redstem ceanothus <i>Ceanothus sanguineus</i>	10	Serviceberry <i>Amelanchier alnifolia</i>	16
Snowbrush <i>Ceanothus velutinus</i>	10	Indian plum <i>Oemleria cerasiformis</i>	16
Beaked hazelnut <i>Corylus cornuta</i>	13	Cascara <i>Phamnus purshiana</i>	33
Salal <i>Gaultheria shallon</i>	10	Pacific rhododendron <i>Rhododendron macrophyllum</i>	26
Oceanspay <i>Holodiscus discolor</i>	13	Species for Wet to Moist Sites	
Dull Oregon-grape <i>Mahonia nervosa</i>	2	Red-osier dogwood <i>Cornus sericea</i>	20
False box <i>Pachistima myrsinites</i>	3	Black hawthorn <i>Crataegus douglasii</i>	33
Mock-orange <i>Philadelphus lewisii</i>	10	Hooker's willow <i>Salix hookeriana</i>	20
Red-flowering currant <i>Ribes sanguineum</i>	10	Sitka willow <i>Salix sitchensis</i>	26
Sticky currant <i>Ribes viscosissimum</i>	6	Red elderberry <i>Sambucus racemosa</i>	20
Dwarf rose <i>Rosa gymnocarpa</i>	4		
Thimbleberry <i>Rubus parviflora</i>	10		
Trailing blackberry <i>Rubiis ursinus</i>	<2		
Mountain ash <i>Sorbus sitchensis</i>	13		
Common snowberry <i>Symphoricarpus alba</i>	6		
Alaska blueberry <i>Vaccinium alaskensis</i>	6		
Black huckleberry <i>Vaccinium membranaceum</i>	5		
Red huckleberry <i>Vaccinium parvifolium</i>	13		
Evergreen huckleberry <i>Vaccinium ovatum</i>	13		
Species for Wet to Moist Sites			
Black twinberry <i>Lonicera involucrata</i>	10		
Fools huckleberry <i>Menziesia ferruginea</i>	10		

Wire Zone: Low Shrubs (<15 feet)		Border Zone: Tall Shrubs & Small Trees (16-35 feet)	
Nootka rose <i>Rosa nutkana</i>	10		
Devil's club <i>Oplopanax horridus</i>	10		
Pacific ninebark <i>Physocarpus capitatus</i>	13		
Black swamp gooseberry <i>Ribes lacustre</i>	6		
Stink currant <i>Ribes bracteosum</i>	10		
Salmonberry <i>Rubus spectabilis</i>	13		
Hardhack <i>Spiraea douglasii</i>	6		
Dwarf blueberry <i>Vaccinium caespitosum</i>	<1		
Highbush-cranberry <i>Viburnum edule</i>	10		

